

## AMENDMENTS TO THE CLAIMS

**This listing of claims will replace all prior versions and listings of claims in the application:**

### LISTING OF CLAIMS:

1. (canceled).

2. (currently amended): An apparatus for manufacturing nano-carbon, comprising:

a target holding unit which has a contact surface being in contact with a surface of a cylindrical graphite target and movably holds said graphite target by frictional force generated between the contact surface and said surface of said graphite target;

a light source which irradiates light to said surface of said graphite target at a substantially constant irradiating angle;

a moving unit which drives said target holding unit so as to move said graphite target held by said target holding unit relatively to said light source, to move an irradiation position of said light on said surface of said graphite target while maintaining the substantially constant irradiating angle, to rotate said graphite target around a central axis by the frictional force generated between said contact surface and said surface of said graphite target, and to move said graphite target in a direction parallel to and a direction perpendicular to a central axis of said graphite target, wherein the moving unit comprises separate movable parts to move the target holding unit in the perpendicular and parallel directions to the central axis of the graphite target;  
and

a recovery unit which recovers nano-carbon obtained from said light irradiation.

3. (original): The apparatus for manufacturing nano-carbon as set forth in claim 2,

wherein said target holding unit has two cylindrical rollers which have rotation axes substantially parallel to said central axis of said graphite target and hold said graphite target between positions parallelly disposed each other; and

said moving unit rotates said graphite target around said central axis by said frictional force generated between said contact surface of said roller and said surface of said graphite target by rotating said roller around said rotation axis.

4. (previously presented): The apparatus for manufacturing nano-carbon as set forth in one of claims 2 and 3,

wherein said moving unit drives said target holding unit so that the irradiation position of said light irradiated to said surface of said graphite target covers over almost the entire area of said surface of said graphite target.

5. (canceled).

6. (previously presented): The apparatus for manufacturing nano-carbon as set forth in one of claims 2 and 3,

wherein said target holding unit comprises one of stainless steel or ceramics, alternatively a metal deposited with carbon on a surface.

7. (previously presented): The apparatus for manufacturing nano-carbon as set forth in one of claims 2 and 3,

wherein said nano-carbon is carbon nano horn assemblies.

8. (canceled).

9. (previously presented): A method of manufacturing nano-carbon,  
comprising:

irradiating light to a surface of a cylindrical graphite target at a substantially constant  
irradiating angle while rotating said graphite target around a central axis; and

recovering nano-carbon generated in said irradiating light,

wherein said irradiating light includes irradiating said light while holding said graphite  
target by a contact surface disposed in contact with said surface and while rotating said graphite  
target around the central axis by frictional force between said surface and said contact surface,  
and moving said graphite target in a direction parallel to and a direction perpendicular to the  
central axis.

10. (original): The method of manufacturing nano-carbon as set forth in claim 9,  
wherein said contact surface is disposed in contact with a side surface of said graphite  
target.

11. (previously presented): The method of manufacturing nano-carbon as set  
forth in one of claims 9 and 10,

wherein, in said irradiating light to the surface of said graphite target, said light is  
irradiated so as to cover over almost the entire area of said surface of said graphite target while  
moving the irradiation position of said light.

12. (canceled).

13. (previously presented): The method of manufacturing nano-carbon as set forth in one of claims 9 and 10,

wherein said irradiating light includes irradiating a laser beam.

14. (previously presented): The method of manufacturing nano-carbon as set forth in one of claims 9 and 10, wherein said recovering nano-carbon includes recovering carbon nano horn assemblies.